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ABSTRACT

Designed to emphasize the concept of the bicycle driver vs. the popular term, bicycle rider, this manual contains guidelines on bicycle safety, addressing itself both to parents and children. The main section topics are: (1) parent responsibility; (2) choosing a bicycle, fitting it to the child, and learning to drive; (3) bicycle equipment, maintenance, and protection from theft; (4) signs, signals, and pavement markings; (5) traffic laws and ordinances; and (6) safety rules and driving hazards. Proper attitudes and skills formulated early in life, it is stressed, will eventually influence future automobile driving habits. The manual is illustrated throughout, and a quiz and bibliography are included at the end. (DS)

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The BICYCLE DRIVER'S GUIDE

Pennsylvania Department of Education

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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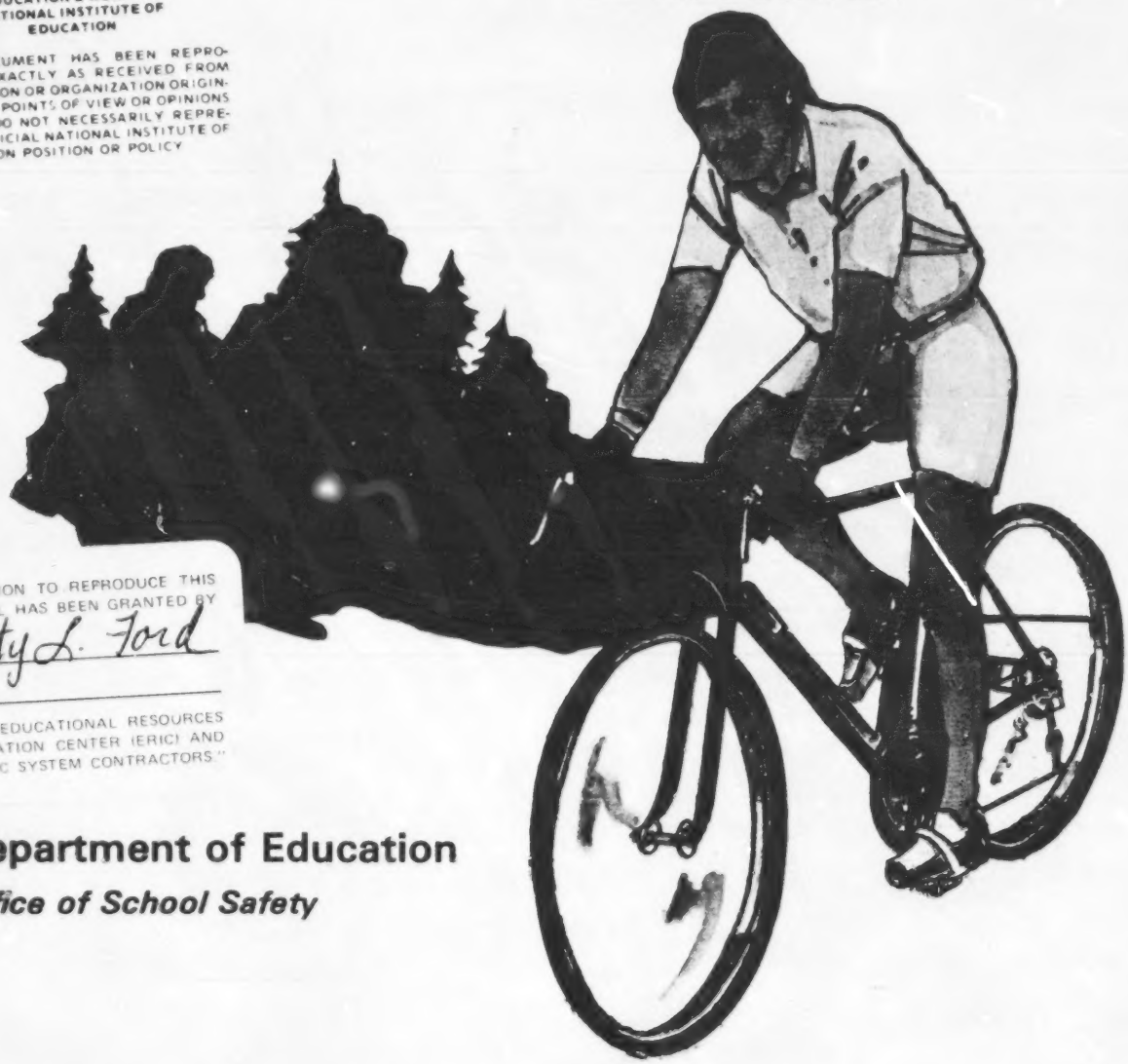

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Introduction

The BICYCLE DRIVER'S GUIDE was produced to emphasize the concept of the bicycle driver vs. the popular term, bicycle rider, and to identify traffic hazards.

The suggestions and recommendations of state and national safety organizations, all experienced in the education and administration of bicycle safety, were included.

The BICYCLE DRIVER'S GUIDE is being made available to the residents of the Commonwealth of Pennsylvania through the efforts of the School Safety Education Office, Division of Personal Development, Bureau of Curriculum Services, Pennsylvania Department of Education, Box 911, Harrisburg, PA 17126.

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Foreword

The popularity and growth of bicycle driving throughout the United States during the past few years has been tremendous. Numerous bicycle paths are being constructed and more new bicycles are being sold than automobiles.

More than half of the bicycles are being purchased by persons 18 or older. Bicycle driving has become a family activity, enjoyable and practical for pleasure, health and transportation.

Because the young bicycle driver of today will become the adult automobile driver of tomorrow, proper attitudes and skills formulated in early life will eventually determine the way an automobile will be driven in the future.

Our responsibility is to help prepare the young bicycle drivers of today to enter into the highway transportation system as safe and responsible citizens.

The BICYCLE DRIVER'S GUIDE is a manual for bicycle drivers of all ages. It contains traffic laws, safety rules, equipment, highway signs and traffic control signals — all necessary for the safe operation of a bicycle. In addition, there is a section for parents who are planning to purchase a bicycle for a child or themselves.

We sincerely hope all bicycle drivers will read this booklet and benefit from its suggestions.

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Welcome To Bicycling

Whether you are a seasoned bicycle driver or on a bicycle for the first time, welcome to the world of bicycling. Whether you have rediscovered the two-wheeler for fun, physical fitness, concern over environmental pollution, transportation, or economics, you are among the many persons enjoying this physical activity.

But driving a bicycle can also be dangerous. Each year hundreds of bicyclists are killed and many thousands are injured in traffic. A bicycle driver is at the mercy of other vehicular traffic at all times. His/her only protection is skill in handling the bicycle and knowledge of traffic laws and safe driving practices.

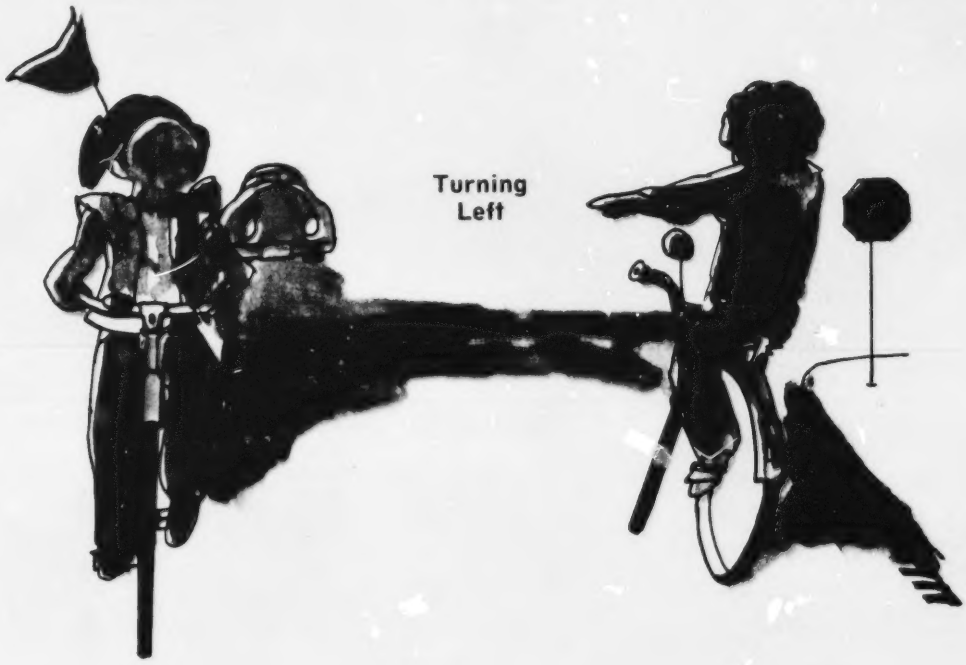
This manual, *The Bicycle Driver's Guide,* has been suggested by the Pennsylvania Department of Education's School Safety Education Office to acquaint bicycle drivers and parents with the laws regarding operation of bicycles on public streets and highways. Also, to teach good safety practices and to help bicyclists acquire the skill necessary for driving in safety and pleasure.

Bicyclist As A Driver

Throughout the guide the term "bicycle driver" has been used as a replacement for "bicycle rider." The reason for the change is that "driver" connotes a responsibility for the control and use of the bicycle that the word "rider" lacks.

The term "rider" implies a sort of passivity of just going along for the ride. It also implies that the bicycle is a toy to be used indiscriminately and then discarded. This view can lead to irresponsibility and undesirable habits.

Thus it was felt that the term "bicycle driver" should be used.



Parents' Responsibility

When planning to purchase a bicycle for a youngster, parents should give serious consideration to and be aware of the responsibilities which they must assume. A bicycle is not a toy; it is a vehicle governed by traffic laws.

Before buying your child a bicycle, ask yourself *honestly* the following questions. It may prevent your youngster from serious harm.

1. Is my child old enough and capable of understanding the role and responsibility of a bicycle driver in traffic?
2. Will he/she keep the bicycle in good mechanical condition and exhibit safe driving procedures?
3. Do we live in an area safe for children on bicycles?
4. If the area is not suitable for bicycles, are there places nearby where children may learn to drive safely - empty lots, bicycle paths, etc.?
5. Will I see that my children get proper instruction in bicycle safety before they are permitted to drive in traffic?
6. Am I willing to help my children while they are learning to drive a bicycle and do I have the time to show them how to care for their bicycles?
7. Do I have the patience to teach my children traffic laws, safety rules and then enforce them?

If you must honestly answer "No" to any of these questions, it might be best to reconsider as to whether you should purchase a bicycle for your child or take the necessary steps to remedy the situation. You may be saving your child from serious injury or even death.

However, if your answers are "Yes" and you decide to buy the bicycle, the next questions should be what size and what kind?

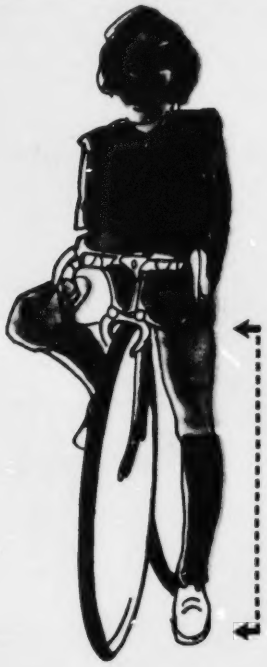
Proper Size

Bicycles are measured by frame size and wheel size. The frame is measured from the seat lug at the top of the seat tube to the center of the crank hanger. (Refer to diagram on right.) It is important that the buyer selects a frame that allows him/her to straddle the top tube or bar comfortably and can mount or dismount without difficulty. Generally, the frame size should measure nine to ten inches less than the bicycle driver's inseam.

To determine the proper size, first measure the leg inseam of the child to the floor. For small children, age is indicated rather than leg length.

The type of bicycle you buy should be determined by considering the following factors:

- The child's age and size
- The purpose for which the bicycle will be used
- The price you wish to pay
- The type of usage it will get — rough, medium or light
- Your concern for safety



A bicycle's frame is measured from the seat lug at the top of the seat tube to the center of the crank hanger.

Size of bicycle for average child:

Wheel Size	Age	Frame	Leg Length
16-20	5-7	13	22
24	8-10		26-28
26	11 & over	17	28-29
		19	30-31
		21	33
		23	34
27		19	31½
		21	32½
		22	33½
		23	34½
		24	35½
		25	36½

For a more detailed explanation in fitting the bicycle to the driver and a general review of bicycle styles, consult the next section, The Bicycle. *Regardless of the type or model you finally decide to get, make sure it fits properly.*

If you buy a bicycle which is not assembled, be sure you know how to put it together before you take it home. Those multi-speed gears can be tricky. If there is any doubt, ask the dealer to do the job, or tell you where it can be done.

Certain equipment is required by law, so read the section in this manual to make sure all of the items are included when you discuss price with the dealer. You may want additional equipment to make sure the *bicycle is equipped for maximum safety.*

Accidents

Parents should instruct their children to obtain necessary information, if possible, when an accident happens. This should include the automobile license plate number as well as the names and addresses of all persons involved. Be sure to impress upon your children the importance of telling you about an accident.

Accidents in which a bicycle and an automobile are involved must be reported if there is a personal injury or if there is damage to the property of any one person in excess of $100.00.

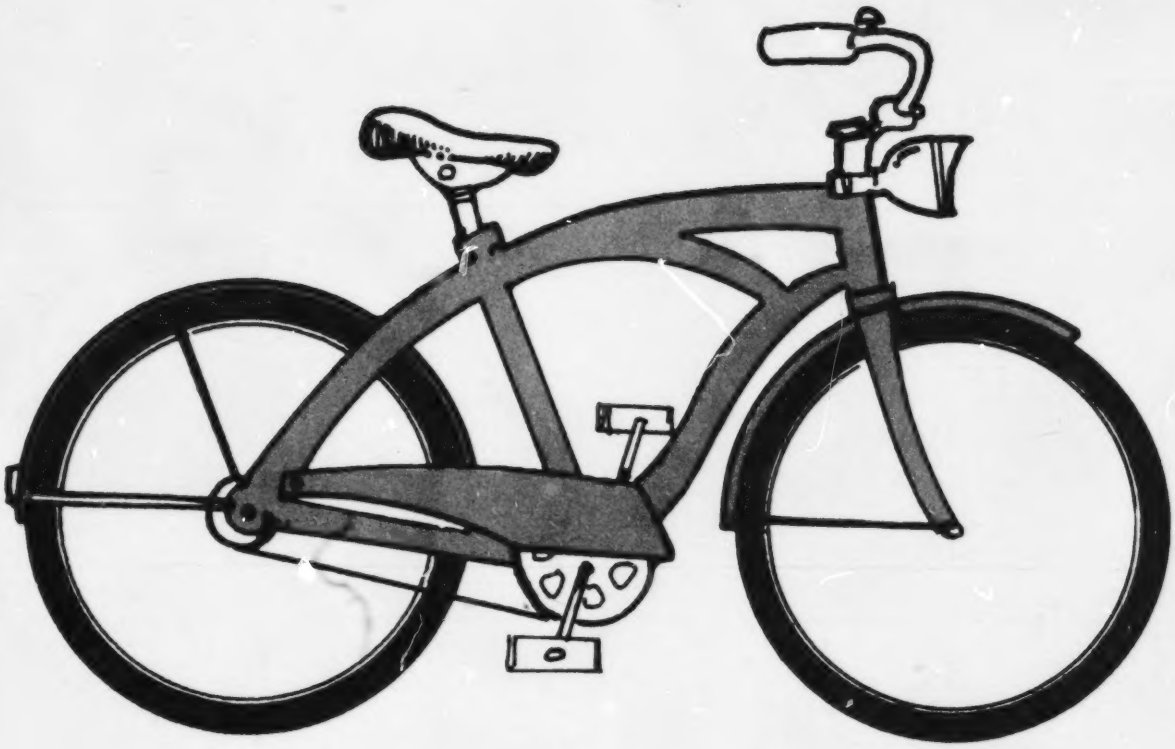
Local Ordinances

State traffic law provides that towns, cities and other local municipalities may enact ordinances regulating the operation of bicycles and requiring their registration or licensing. Some cities have bicycle ordinances and others do not. Some cities prohibit driving on sidewalks in certain areas only. Others forbid bicycles on sidewalks at any place. Some ordinances require the registration of bicycles. Check with your local enforcement agency and get a copy of the local code book.

Safety Rules And Traffic Laws

Parents should never think of a bicycle as a toy or plaything; it is a vehicle and must be used accordingly. Bicycle drivers are subject to the same traffic laws as the automobile drivers.

It is the parents responsibility to make certain that a child understands the signs, signals and regulations explained and illustrated in this manual. It is also the parents' responsibility to make certain that the child observes and obeys them, and keeps the bicycle in safe operating condition. Parents must be willing to take the necessary time for frequent observations of their child's performance to determine whether he/she is following their instructions properly. Continued supervision is necessary.



The Bicycle

Today's bicycles come in several models. The bicycles are built in basically three styles — middleweight, high-rise and lightweight. Each style offers different models to suit your needs and pocketbook.

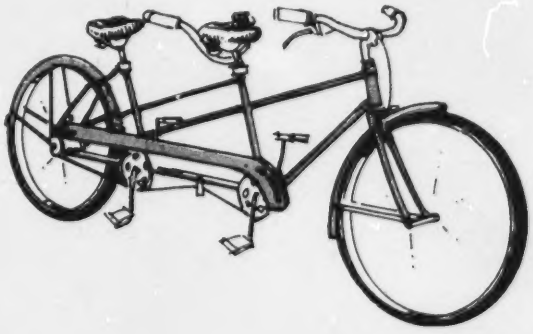
The **middleweight bicycle** is strong and durable and weighs about 50 pounds. Its ability to withstand punishment is its chief virtue. The bicycles have large low pressure tires and coaster brakes. (The only braking system that should be considered for any young beginner.)

The **high-rise bicycle** is designed for fun. These bicycles are definitely not for beginners. They have a shorter wheelbase, smaller wheels, high handlebars and a long banana seat. They enable the driver to make quick turns and perform trick maneuvers. If you must get one, get it without gears and with a coaster brake. Accident studies agree that gear levers or stick shifts can cause serious injury if you fall into or onto them and falls are a frequent form of accidents with this style of bicycle.

The **lightweight bicycle** is designed for persons wanting speed, easy handling and endurance. They have narrow, high-pressure tires and touring style handlebars. Lightweight styles range from bicycles with 3 speeds to ones equipped with derailleur gears which have a choice of 5 to 10 speeds. The varying speeds make hill climbing easier and give you more speed on level ground.

The **adult tricycle** is designed for steadiness and the ability to carry things that two wheelers don't offer.

The **tandem** is a bicycle built for two. These bicycles can be fun providing: (a) you are an experienced bicycle driver and so is your partner; (b) the two of you agree when to press forward and when to hold back; and (c) you both want a tandem.



Which Bicycle To Choose?

Although the decision is yours, the following statements may be of some help to you.

1. For what purpose will I use the bicycle?
2. What do I want the bicycle to help me to do?
3. How complicated must the bicycle be to give me that help?
4. Am I capable of taking care of the bicycle when something goes wrong?
5. Can I give the bicycle the care, attention, even the technical understanding and adjustment it needs to perform well?
6. Where will I put the bicycle?
7. Do I plan on cycling regularly for long distances or once in a while for a limited duration?
8. Am I a novice bicycle driver or one who has driven for some time?
9. Is there a reliable bicycle dealer in my town or nearby?

Whatever model you decide, remember that dealerships are local, and the representative of the manufacturer in your town is the person you'll be dealing with for the life of the bicycle. Select a dealership with whom you will be happy.

How much do I want to spend or can I afford a bicycle? Would a good used bicycle meet my needs?

Regardless of the style, price or dealership remember to select a bicycle suitable for the kind of bicycle driving you will be doing and one that fits you. Far too many persons, especially children, are on bicycles which are much too large for them. This fact contributes to a good percentage of our accidents. *Elementary children should not be expected to drive a full size lightweight 10-speed bicycle with hand-brakes. These bicycles are far too sophisticated and complicated to handle safely.*

Fitting The Bicycle To The Driver

Regardless of the type or model you finally decide to get, *make sure it fits properly.* A bicycle which is too large or too small will be unsafe to drive safely. *Fit the bicycle to the driver.* The adjustment of the bicycle to the driver has the most significant influence on the risk of a collision. Minimum risk of a collision is associated with beginning bicycle drivers who, when seated, can just reach the ground comfortably with their feet extended. (Refer to illustration at right.)

To learn without fear, you need a bicycle that permits you to rest both feet flat on the ground.

Learning to Drive

Once the driver has mastered the control and balance of the bicycle, an adjustment may be in order, according to the National Safety Council.

When the bicycle driver sits on the saddle with the *heel* of one foot on the low pedal and grasps the handlebars, the following should be noted:

a. The leg, thigh and the heel which is on the low pedal should form a straight line.

b. The seat should be parallel to the ground.

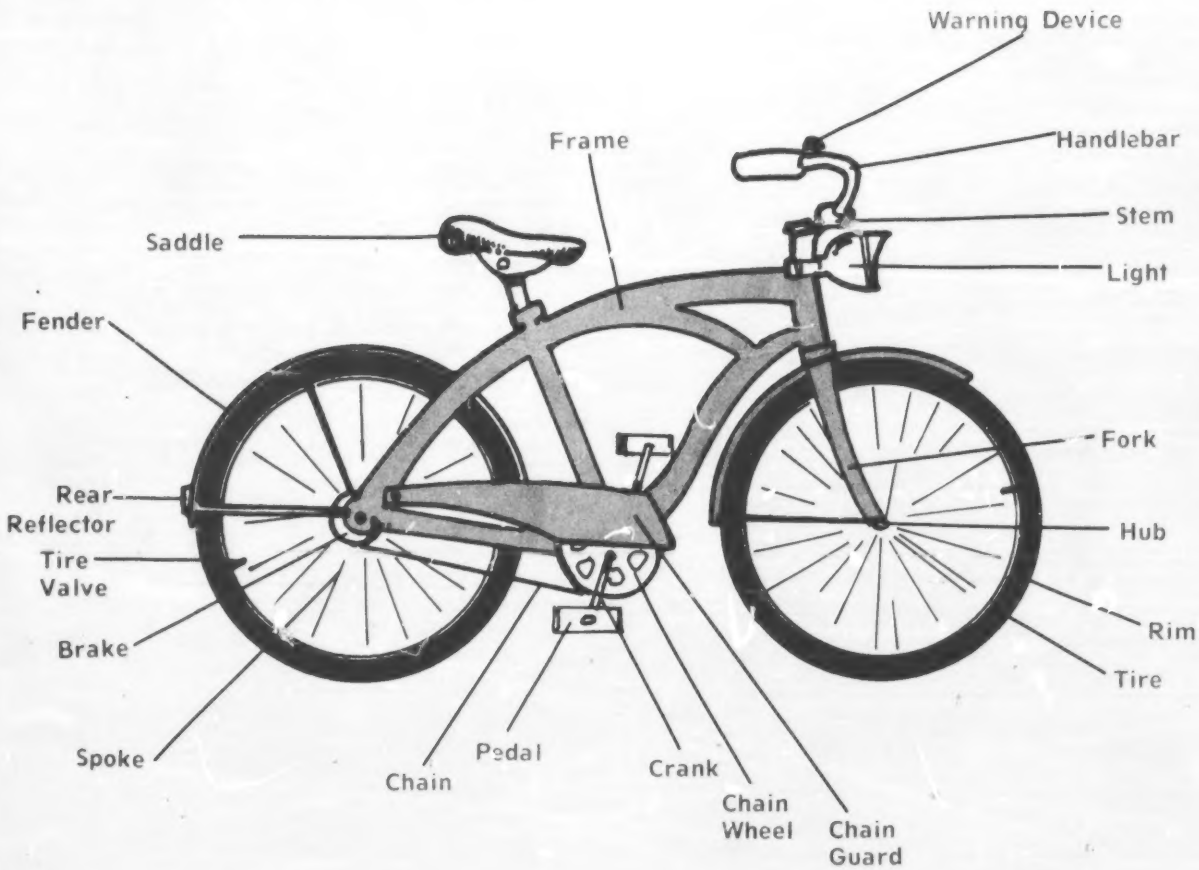
c. The upper part of the body should be inclined slightly forward.

d. The handlebar grips should be at right angles to the handlebar stem and about the same height as the seat.

e. The hands should fall naturally to the handlebar grips without stretching.

Note: The above recommendations are for conventional middleweight and lightweight touring bicycles. The new bicycles with 20" wheels, a 13" frame and "high-rise" handlebars (hereafter referred to as "hi-risers") tend to make the driver sit erect with the hands well above seat level. However, handlebars should never be so high as to bring the driver's hands above shoulder level. This practice is not only unsafe, but also illegal in some municipalities. Again in reference to "d" the "sports" lightweight bicycle with dropped handlebars brings the driver's hands below seat level. This crouched or bent-over position is most comfortable for long distance riding and the most efficient for hill climbing and high speeds.

Parts of a Single Speed Middleweight Bicycle



Bicycle Equipment

Certain types of bicycle equipment are required by Washington state law.

A Brake — The bicycle must have a brake that takes hold quickly and makes the rear wheel skid on a dry, clean, level pavement. The brake pads on bicycles equipped with caliper (hand) type rim brakes should be inspected weekly for wear. Brake cables should be checked for wear, fraying and binding. Caliper brakes lose their efficiency when wet. Extreme caution must be used when driving in wet weather or in areas where heavy dew or puddles might wet the pads and rims.

If you drive your bicycle during darkness or any other time when it is hard to see, your bicycle must have:

A Head Lamp — located on the front which projects a white light visible from a distance of at least 500 feet to the front.

A Red Reflector — located on the rear of a type approved by the state commission which can be seen from 50 feet to 300 feet to the rear.

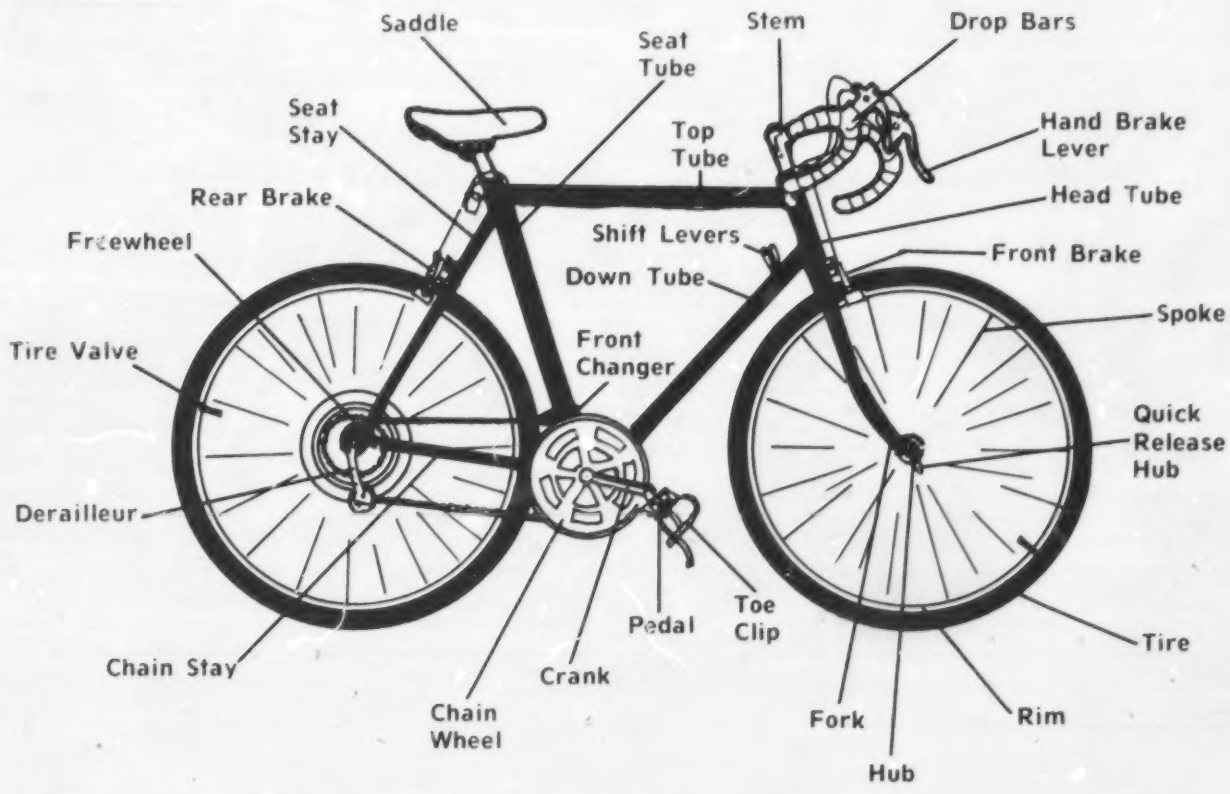
A Red Light — which can be seen from a distance of 500 feet to the rear *may be used in addition to the red reflector.*

Additional Equipment For Maximum Safety

A "T" Light — is available which has a white light showing to the front and a red lens to the rear. When worn on the left leg below the knee, it is extremely noticeable to the motorist because of the leg movement.

A Horn or Bell — which should be heard at a distance of 100 feet. For sidewalk or path driving they are useful and may be required in some cities.

Parts of a Multispeed Touring Bicycle



A Rearview Mirror — which enables you to check the traffic behind without turning around. A convex mirror or an approved motorcycle mirror is recommended.

Reflectorized Materials — may be used for additional protection during darkness. Red tape is used on the rear and white or silver on the front forks or handlebars. Reflectorized pedals are also available and the rotary motion of the pedals tends to attract motorists' attention and offers additional protection from the side. It is strongly recommended that bicyclists wear white or light colored clothing when driving at dusk or at night.

Chain Guard — Most bicycles have them. If yours doesn't, it's best to put one on. In addition there are clamps that go around the legs to keep the pant cuffs contained from becoming caught in the chain or snagging on other hazards.

Fenders — These are recommended for front and rear tires, especially if you drive on wet streets.

Serrated Rims — If you plan on driving your bicycle on wet streets, these rims prevent water buildup on the rims and allow for better braking.

Kick Stands — All bicycles should be left in an upright position. Bicycles left on their sides can cause mechanical problems later on.

Rear Carrier — For packages, books and other items. This is the safe and easy way to haul things. Wire saddle baskets can be mounted on rear fenders for more capacity.

Children Seats — Use only rear seats that have leg shields to keep the child's feet out of the spokes.

Suggested Maintenance

Keep your bicycle in good condition. Despite the fact that it runs on leg power, it is a mechanical device and requires periodic upkeep and possible repairs. A good running bicycle is a pleasure to drive and even more importantly, it is a much safer vehicle.

Tires: Come in two types. The first is the common clincher or inner tube type. The second is a sew-up or tubular tire with a thin tube sewed inside the tire forming one unit. Check tires frequently to maintain proper tire pressure. The air pressure is usually printed on the sidewall of the tire. If it is not printed on the sidewall, ask your dealer. It is best to inflate the tires with a hand pump. Many gas station air pumps cannot be controlled and tire damage might result. Check tire valves for leaks by using soapy water. Keep the valve stems tight and the valve capped. Remove imbedded glass, cinders, nails, etc. Don't ride on bald or soft tires.

Overinflation can cause blowouts when striking a sharp object. Underinflation will weaken the sidewalls and cause tire failure.

Spokes: Should be of uniform tightness. Pluck the spokes in guitar fashion or let a pencil hit them as the wheel rotates; spokes should have the same musical pitch all around. Broken spokes should be replaced and loose spokes tightened. On a derailleur bicycle the spokes are usually "dished" on the side of the rear wheel gear cluster.

Periodic lubrication: Is recommended for a smooth operating bicycle.

Handlebars and stem: Should be at correct height. The handlebars should be adjusted so they are level with the frame and slightly higher than the saddle. Dropbars should be adjusted so that the top bar is even with the nose of the saddle. Handlegrips should be cemented on and dropbars taped and plugged. The stem should be tightened so that the handlebars and stem will turn if twisted quite hard. They should give if the driver is in an accident, absorbing some of the shock.

Saddle: Make sure the saddle is adjusted to the proper height and tight. The saddle should be parallel with the ground. The leg of the bicycle driver should form a straight line when the pedal is in the lowest position with the driver's heel resting upon it. For smaller and inexperienced riders, the saddle should be adjusted so that the feet touch the ground when seated on the saddle.

Chain: The chain should not be loose enough to come off the chainwheel. On a 1- and 3-speed bicycle, the chain should have only a small amount of slack (about ½ inch). Keep the outside of the chain very lightly oiled as excess oil will collect dust and dirt. The chain should be checked frequently for damaged links. The chain should be cleaned and lubricated frequently.

Pedals: Should turn freely and have no side play. Be sure to replace with reflectorized pedals when bent, broken, or when only the spindle remains to push on.

Frame: All nuts, bolts, and fasteners should be tight. Check the paint for wrinkles. If the paint is wrinkled it may indicate possible frame weakness or damage.

Light and reflector: Must meet state law requirements; batteries and bulbs should be checked frequently, especially when the driver expects to be out after dark. Keep lights, reflectors and mirrors clean and firmly attached.

Protection

Each year thousands of bicycles are stolen. The most effective method to alleviate this problem is to lock up your bicycle.

Make sure your bicycle has a factory stamped serial number. The three places to look for your serial number are (1) directly under the seat; (2) on the bottom of the pedal-crank housing; and (3) on the left side of the back fork opposite the chain.

1. Every time it is left unattended even if for "just a minute," lock it.

2. Use a high quality lock and a 3/8" case hardened steel chain. (Many chains have a plastic covering to keep from harming the bicycle finish.) Avoid locks which can easily be cut with wire cutters, or easily picked, or broken.

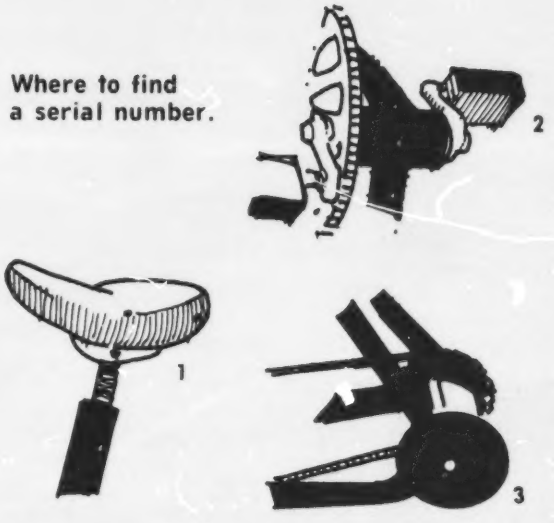
3. Put your bicycle away in a locked room, garage, or basement when it is not being ridden. Keep it out of sight and not in plain view in your yard or driveway.

4. Register and license your bicycle with the local police department if such a service is available.

5. Record the name and serial number of your bicycle and keep it in your permanent records.

6. Check your homeowner's or renter's insurance to see if the policy covers bicycles.

Where to find a serial number.



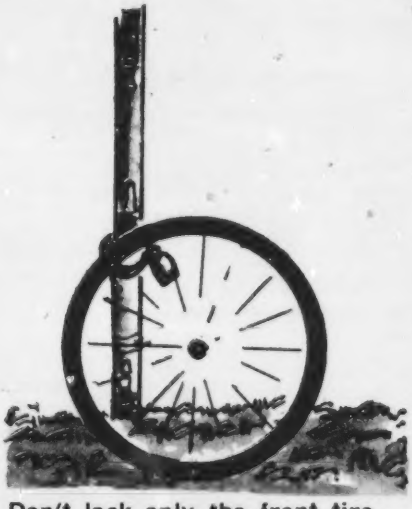
The correct way to lock a bicycle is to place the chain through both wheels, the frame, and around a stationary object. If it is impossible to place the chain through both wheels, make certain that it goes through one wheel (preferably the rear) and the frame. Bicycle parking facilities should be provided in public open spaces and municipal parking garages.

It is best to lock your bicycle upright to a bike rack, post, or fence.

Suggestions For Locking Up Your Bicycle

Lock your bicycle to something solid.

A bike rack is best.

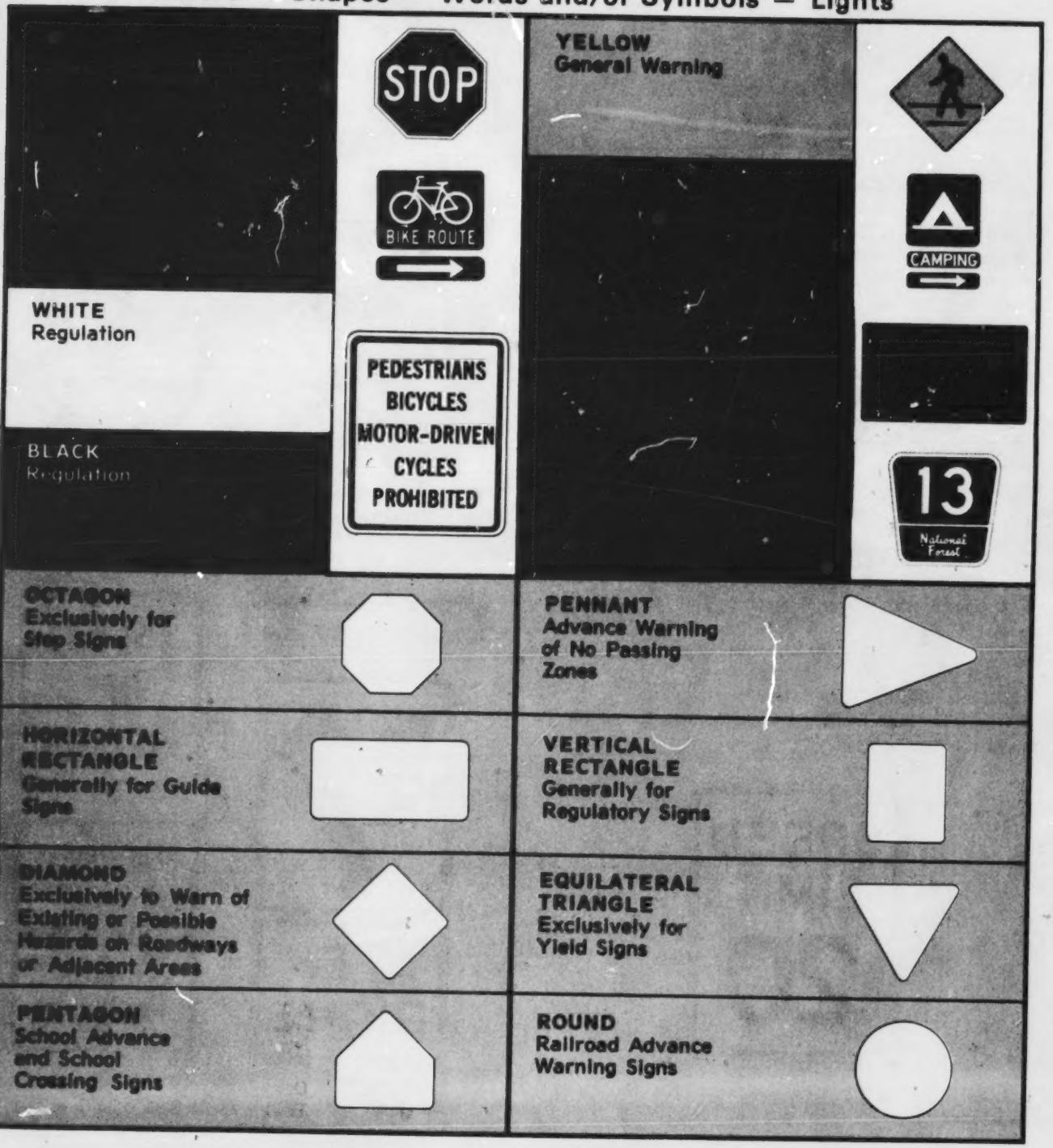


Don't lock only the front tire. That could be the only part left.

Signs, Signals And Pavement Markings

All signs, signals and pavement makings are messages that tell drivers where they are and where and when to go. Bicycle drivers must obey highway signs and signals, and pavement markings just as automobile drivers are required unless a law enforcement officer gives other directions.

Colors — Shapes — Words and/or Symbols — Lights

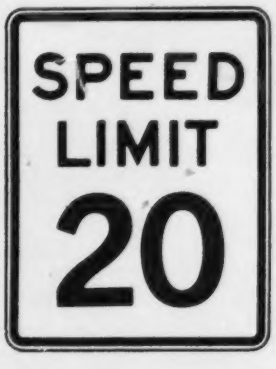


Regulatory Signs

1. **STOP** A stop sign means you must bring your bicycle to a complete stop and then give the right-of-way to pedestrians and approaching traffic. A bicycle must make a complete stop before entering the intersection or crosswalk.

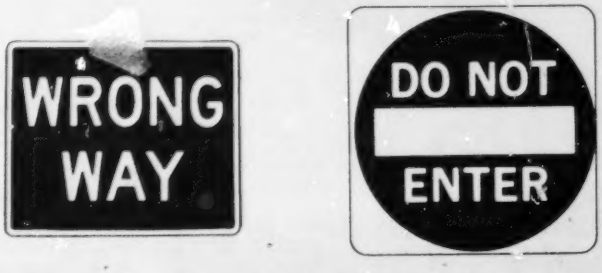
2. **YIELD** A yield sign means you must slow down to a speed which would enable you to stop if necessary. A bicycle must then give the right of way to:

1. All pedestrians;
2. Other traffic in the intersection;
3. Approaching traffic close enough to be an immediate hazard.



3. **SPEED LIMIT** A bicycle must obey the speed limit, too!

Signs with a red circle and a red diagonal bar do not allow certain vehicles and movement.



These signs are used to warn and re-direct drivers who are going the wrong way.

Additional New Regulatory Signs.

Warning Signs

These signs indicate conditions ahead which require caution. They may have symbols and/or a written warning.

CURVES

WINDING ROAD

CROSS ROAD

SIDE ROAD

SIGNAL AHEAD

DIVIDED HIGHWAY

DIVIDED HIGHWAY ENDS

MERGE

TWO WAY TRAFFIC

HILL

20

Warning Signs

RIGHT LANE ENDS

SCHOOL AHEAD

SCHOOL CROSSING

INTERSTATE

FEDERAL

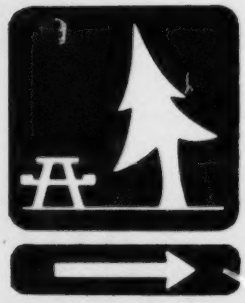
STATE

FOREST

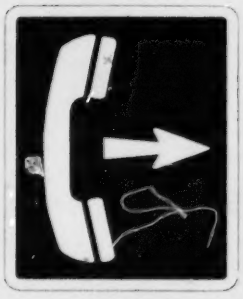
Guide Signs

These signs give general information to the driver.

1. Route Markers



ROADSIDE TABLE



TELEPHONE

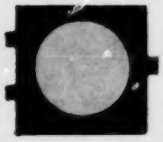
2. The blue color of these signs indicates that they provide direction to service facilities.

3. The green background signs indicate that the message is providing directional information.

4. The brown background sign provides directional information to public parks and recreation areas.

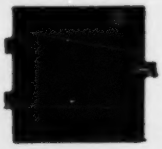
Traffic Signals

1. **STEADY RED** You must stop before entering the intersection. You may not proceed straight ahead during this light.

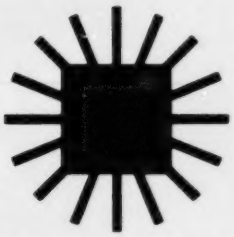


2. **STEADY YELLOW** A steady yellow light at a Stop and Go signal is a warning to drivers that the light is going to turn red. It is unlawful to be in the intersection when the red light has flashed on.

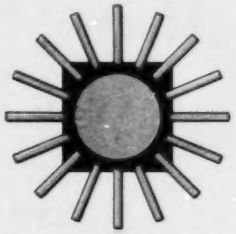
3. **STEADY GREEN** A steady green light indicates you may turn or proceed through the intersection unless otherwise posted. You must give the right-of-way to pedestrians and other vehicles.



4. **STEADY GREEN ARROW** A steady green arrow, which is sometimes accompanied by a red light, means you may proceed cautiously in the direction of the arrow without stopping. However, you must still yield the right-of-way to pedestrians and cross traffic.



5. **FLASHING RED LIGHT** A flashing red light means you must come to a complete stop. It is used at dangerous intersections or at locations where visibility may be poor. Proceed only when the way is clear.

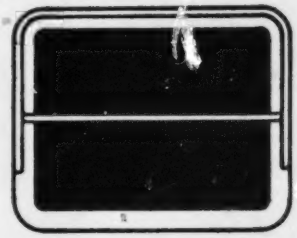


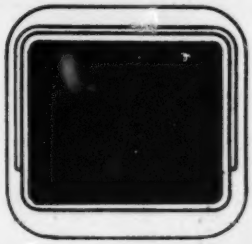
6. **FLASHING YELLOW LIGHT** A flashing yellow light means slow down, check traffic and proceed with caution.

Pedestrian Signals

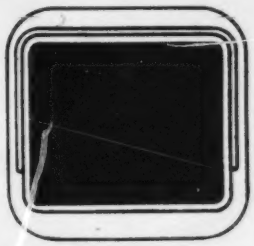
On occasion bicycle drivers must become pedestrians while using their vehicles.

Leave the curb to cross street.



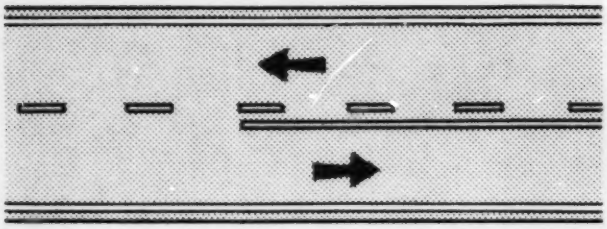


"Flashing" — don't begin to cross. If already in the crosswalk, complete crossing.

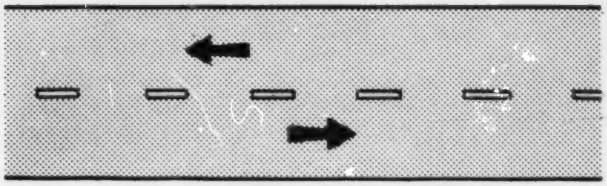


Do not leave curb.

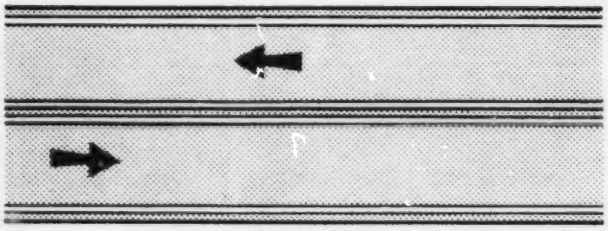
Pavement Markings



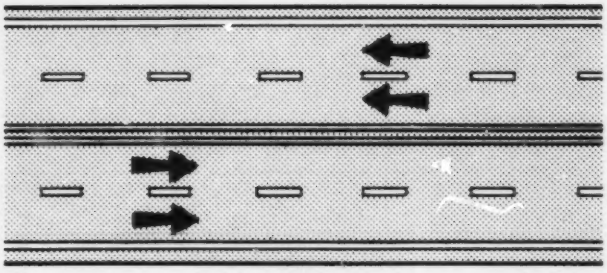
TWO LANE NO PASSING ZONE
In one direction when the solid line is in your lane



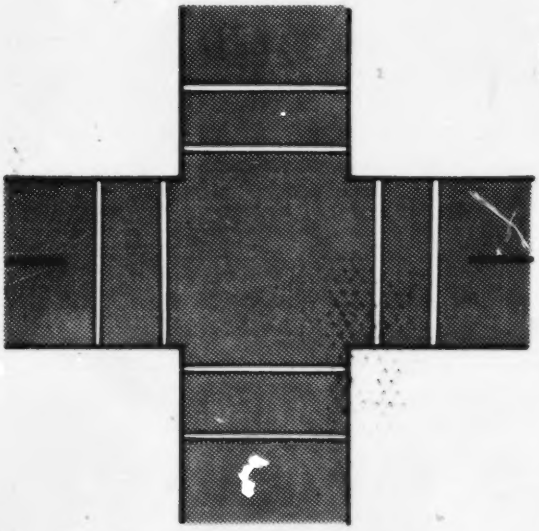
BROKEN



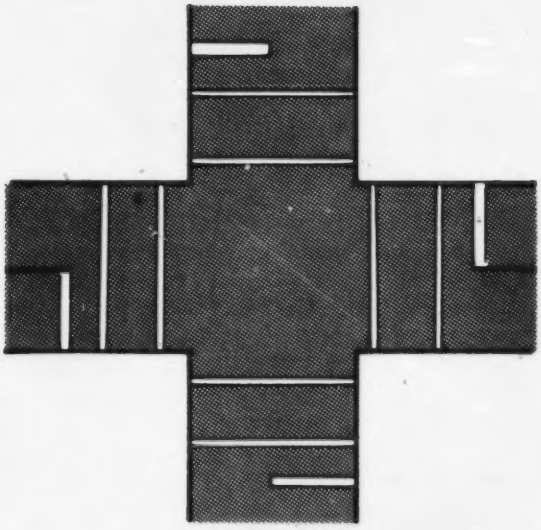
DOUBLE YELLOW
No passing zone both directions



MULTI-LANE



CROSSWALK LINES
Solid white lines mark pedestrian crosswalks. These lines extend the entire width of the pavement. Bicycles should stop in back of the crosswalk.



STOP LINES
White stop lines are painted across the pavement to indicate the exact stopping point.

Bicycle Traffic Laws And Ordinances

A bicycle driver is at the mercy of other vehicular traffic at all times. His/her only protection is skill in handling the bicycle and knowledge of traffic laws and safe driving practices.

Traffic laws make it possible for us to travel with reasonable speed and safety. If everyone understood and obeyed them, there would be fewe accidents.

Motor Vehicle Laws

Ordinances that are written governing the operation of vehicles have used the term **pedalcycle** for **bicycle**. This edition of **The Bicycle Driver's Guide** uses both terms.

Although a bicycle is not a *motor* vehicle, it is a vehicle and many laws governing operation of motor vehicles on the public streets and highways also apply to the driving of bicycles on such roadways.

Any person driving a bicycle on a public street or highway has the same rights and responsibilities as does the driver of any motor vehicle.

Bicycle drivers must be familiar with and obey all signs, signals and other traffic control devices just as the operators of motor vehicles.

The Bicycle Driver's Guide makes no attempt to outline all of the laws covering motor vehicle traffic which bicycle drivers are expected to know and perform. A comprehensive digest of those laws may be obtained from your local law enforcement agency. All bicycle drivers are encouraged to obtain a copy.

Pennsylvania Bicycle Laws

Definitions

Vehicle—any device in, upon or by which any person or property is or may be transported or drawn upon a public highway—a bicycle (pedalcycle) shall be considered as a vehicle. As such, any operator of said vehicle shall obey all traffic laws and ordinances of the Commonwealth or Municipality therein.

Lights

Lamps on Bicycles [pedalcycles]—Every bicycle (pedalcycle) in use between sunset and sunrise shall be equipped on the front with a lamp that emits a white light visible in normal conditions from a distance of at least 500 feet. A red reflector or a red light shall be placed on the rear of the bicycle (pedalcycle) and be visible from a distance of up to 600 feet. Amber reflectors shall be used on each side.

Penalty

Any person violating any provision of the laws on bicycles (pedalcycles) is guilty of a summary offense and shall, upon conviction, be sentenced to pay a fine of $10. The parent of any child and the guardian of any ward shall not authorize or knowingly permit the child or ward to violate any of the provisions of this title relating to the operation of bicycles (pedalcycles).

Hitching

Hitching - No person shall hang on to, or ride on, the outside or the rear end of any vehicle, and no person on bicycle, roller skates, sled or any device, shall hold fast to or hitch on to any moving vehicle, and no operator of a vehicle shall knowingly permit any person to hang on to, or ride on, the outside or rear end of the vehicle, which he/she is operating, or allow any person on a bicycle, roller skates, sled or any similar device to hold fast or hitch on to the vehicle which is being operated on any public highway.

Penalty

Any person violating any of the provisions of the above, shall upon summary conviction before a magistrate be sentenced to pay a fine of twenty-five dollars ($25.00) and cost of prosecution, and in default of the payment thereof, shall undergo imprisonment for not more than ten (10) days.

Local Ordinances

Some cities have local traffic laws which are called ordinances. These control the operation and parking of bicycles within city limits and it is important for you to know what they are. Check with the local law enforcement agency and obtain a copy of the bicycle laws and regulations for your area.

Bicycle Safety Rules And Driving Hazards

Traffic laws tell bicycle drivers what they must do, but traffic laws alone cannot protect the bicyclist in traffic. Your driving skill and good judgment are key factors in bicycle safety. Always remember that you and your bicycle are often hard to see in traffic by the drivers of motor vehicles. Bicycle drivers must drive defensively at all times and be alert to danger areas.

Always drive with the traffic when driving your bicycle in the street. A bicycle is a vehicle. *Driving with traffic reduces the speed difference between the bicycle and motor vehicle, thus reducing the impact if an accident should occur.* In addition when you drive along with the traffic, you give the drivers of cars behind you a better chance to stay out of your way and they are more likely to see you than if you unexpectedly appeared in front of them going the wrong way.

Try not to drive your bicycle on a city street where parking is not allowed. These highways are made for high speed traffic and there simply is no room for a bicycle.

Plan your route ahead of time and if you must travel in the street, drive on city streets where car parking is allowed. Cities and towns allow from 30 to 36 inches on streets where cars are parked to allow for the doors of parked cars to open easily. This space allows enough room for a good bicycle driver to travel.

As a precaution, watch out for car doors opening ahead of you when driving on streets with parked cars. In addition, look out for pedestrians crossing between parked cars.

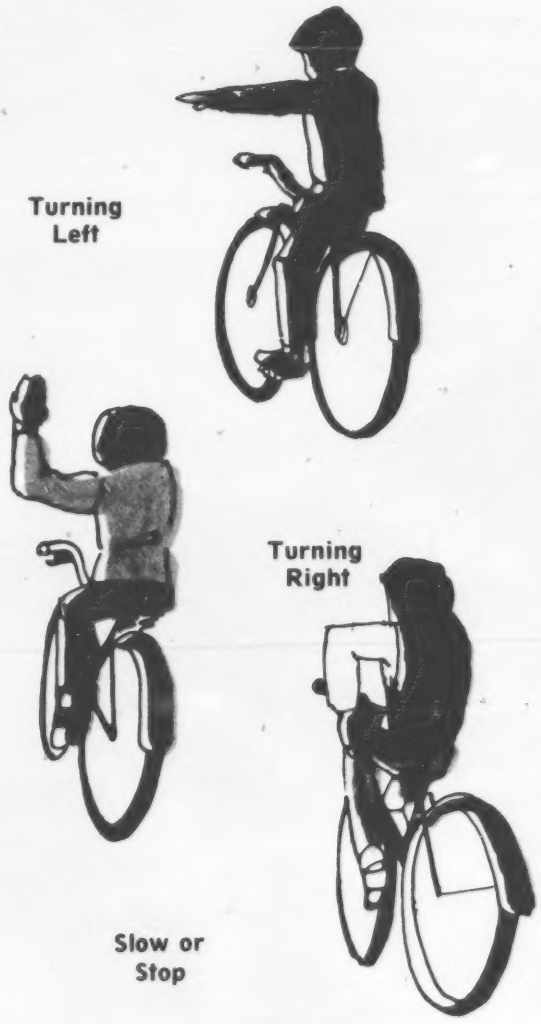
Drive your bicycle in a single file at all times except where motor vehicle travel is extremely light and you can see for some distance. If you drive side by side, remember no more than 2 abreast and have a prearranged rule whereby the driver on the left slips in front

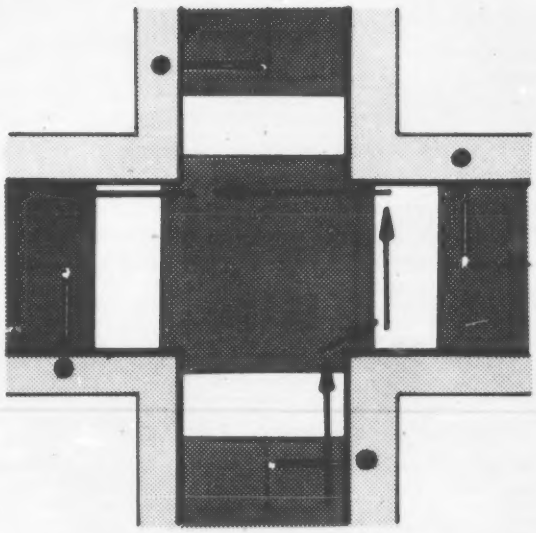
Watch out for car doors opening unexpectedly.

while the driver on the right drops back. Remember to always drive on the right hand side of the street.

Signals must be given by all bicycle drivers when making turns or stopping. Also give the proper signal before changing lanes. This is the only means of communication the bicycle driver has with other drivers. Signal your intentions at least 100 feet prior to turning — but remember to return your hand to the handlebars just prior to making the turn.

Turn signals may be given with your arm or by an electric signal light. The correct arm signals are shown below.





Left turn — at a busy intersection

At intersections give everyone the right of way including motor vehicles and pedestrians.

Never turn left while mounted at a busy intersection or at one where there is a stop light. It is recommended that the bicyclist dismount and walk to the far side of the street across the intersection. Wait till the light turns green and walk your bicycle across in the pedestrian lane. (See above diagram.)

Obey all stop lights, stop signs and road signs just as though you were driving a car.

Never try to hitch a ride by holding onto a motor vehicle. You never know which way the vehicle will turn or how suddenly it will stop. Trucks often have air brakes that enable them to stop so fast that you would not be able to hold on. The driver of the motor vehicle may not realize you are hanging on and could brush you against an object such as a parked car.

Never ride two on a bicycle unless you have a tandem. Riding two on a bicycle built for one makes it hard to see where you are going, where to stop and easy to spill.

Don't fool around on a bicycle. Many youngsters think it is fun to raise the bicycle to the rear wheel and go down the street with the front wheel off the ground. Fun and games and trick driving on a bicycle are dangerous and you can be thrown off balance into the path of a car or if you fall, strike your head on a concrete curb.

Driving your bicycle on side roads can be quite dangerous. Remember to slow down on curves and

over autumn leaves that have fallen. Remember too, that everyone's vision is reduced when it is raining. When on a bridge with natural expansion grates, cross at an angle.

On sunny days wear a good pair of sunglasses, for they not only shade your eyes but shield them from bugs and the wind. Clear glasses are good for dark days and also give protection from the rain, wind and bugs.

If your bicycle is equipped with handbrakes, they must be used properly to be safe and effective. Try to put equal pressure on the control lever so the two wheels will brake evenly. Do not apply the front brake first; this mistake could throw you. It is even more dangerous when making a turn and when you are riding on gravel or wet pavement.

Additional Safety Rules

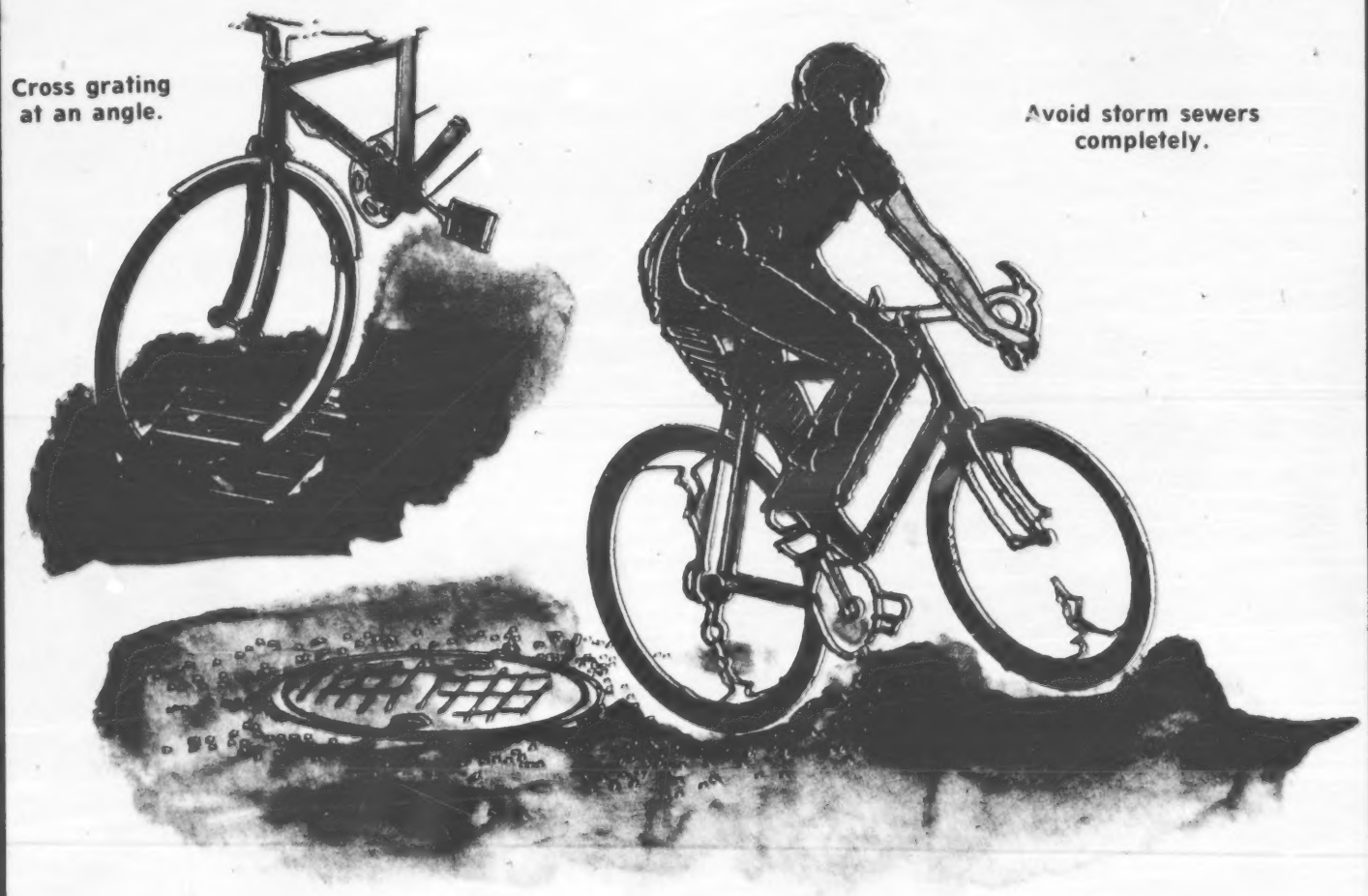
Whenever possible use a bicycle path instead of the street.

Overloading your bicycle with large or heavy packages will make it hard to handle in traffic and may cause you to take a fall.

Be alert for cars which are starting out from a curb or driveway.

Be alert for dogs for they like to chase bicycles and may snap at your feet or tires.

Be alert for storm sewers located in the street. Storm sewers with grated street covers are a real hazard in city cycling. Many of these drains are designed with sufficient width between the grating to permit a bicycle wheel to drop down between them.



Bicycle Child Carriers

There are a number of good child seats especially designed to permit a bicyclist to carry a small child on a bicycle providing he/she can sit up. It is recommended that you use a seat that is fitted with side rails and a restraining strap. In addition the seat should come equipped with leg shields in order to keep the child's feet out of the spokes. The seat should have a foot rest and a safety strap to tie the child in. A child carrier seat that fastens to the handlebars can create a dangerous unbalanced bicycle and makes accurate steering practically impossible. Furthermore in the event of an accident, the child has no protection. When the child is in a rear wheel carrier, you are between him/her and any object ahead.

Safety Tips Pertaining To Group Cycling

Know the roads you will be traveling on; many of our highways are unsafe for the bicyclist to use and the necessary changes to make them safe cannot be made overnight. A highway without sufficient room to allow you to pull to the right so that vehicular traffic can pass safely is considered unsafe. Anytime a situation arises where traffic is slowed and is impeded by a bicycle or another car, your chances of becoming involved in an accident are great.

Stay at least 2 bicycle lengths apart from other vehicles. When going downhill, stay up to 10 bicycle lengths apart.

Single file except in remote areas.

No more than 4 to 6 bicycles in a group. Allow ¼ to ½ mile between groups.

Carry water in plastic bottle carriers. Bottles can be attached to handle bars or seat tube.

If your bicycle is loaded with camping gear, take it easy for a day or two. The weight factor makes it harder to corner, slows you down on hills, causes downhill speed to build up, and you have to use your brakes longer.

When riding longer distances, change your hand position on the handlebars frequently. Ride with your weight on your feet, seat and hands. These habits will reduce fatigue and make bicycling more enjoyable.

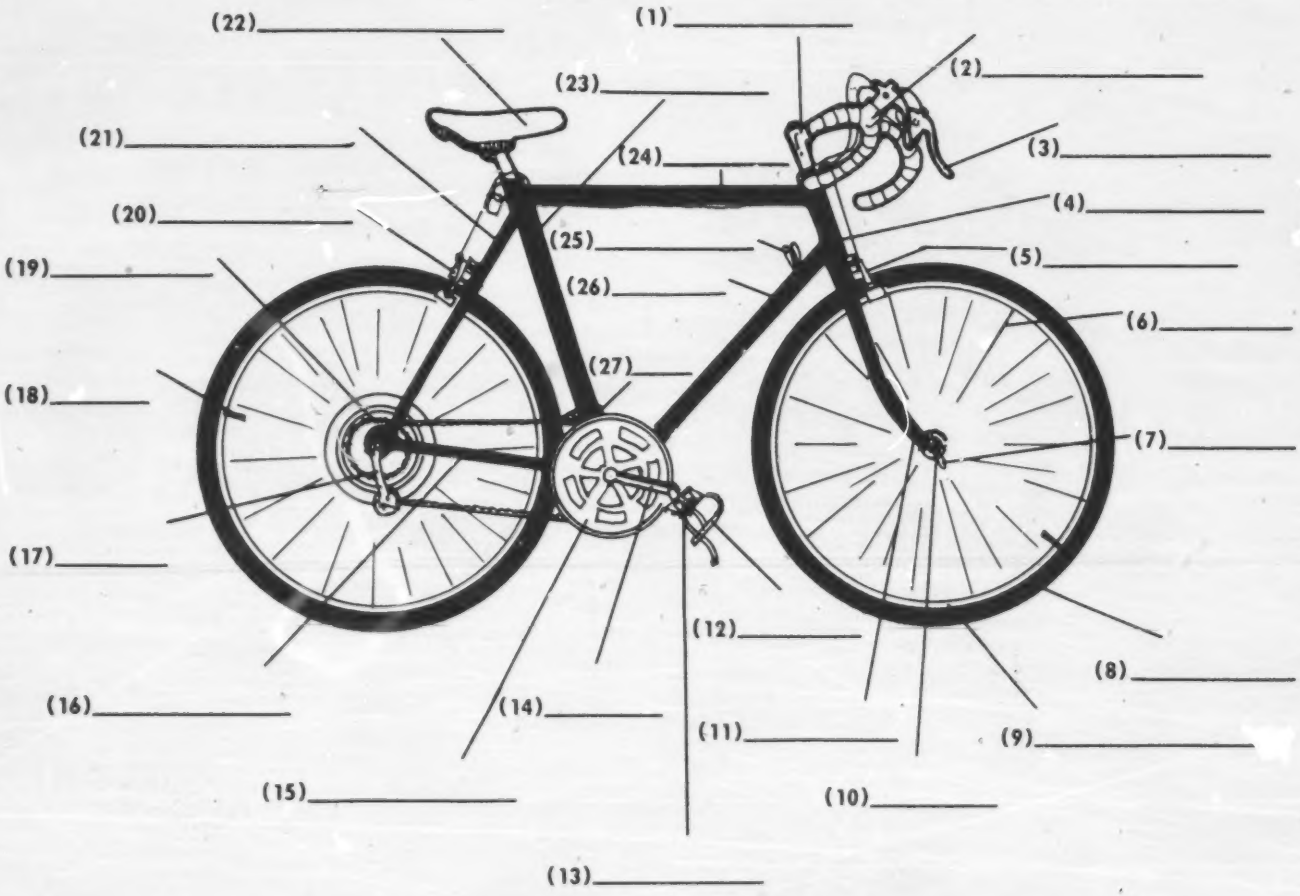
Carrying Your Bicycle On A Car

If you carry a bicycle on your car, the ideal spot is on top of the car, but if you decide to carry it on the front or rear, make sure your car will be legal; that is, can the tail, head and signal lights plus the license plate be seen?

Bicycle Driver's Quiz

1. Write in the names of the parts of this bicycle:

(1) Stem
(2) Drop Bars
(3) Hand Brake Lever
(4) Head Tube
(5) Front Brake
(6) Spoke
(7) Quick Release Hub
(8) Tire
(9) Rim
(10) Hub
(11) Fork
(12) Toe Clip
(13) Pedal
(14) Crank
(15) Chain Wheel
(16) Chain Stay
(17) Derailleur
(18) Tire Valve
(19) Freewheel
(20) Rear Brake
(21) Seat Stay
(22) Saddle
(23) Seat Tube
(24) Top Tube
(25) Shift Levers
(26) Down Tube
(27) Front Changer



2. When determining the type of bicycle to buy you should consider which of the following? (Page 7)
(a) age and size of driver (b) purpose for which the bicycle will be used
(c) price you wish to pay (d) all three items listed

3. The most important consideration when buying a bicycle is? (Page 7, Page 12)
(a) does it fit (b) the color (c) the style (d) the price

5. If you drive a bicycle when it is dark, you must have a red tail reflector and front head lamp? (Page 13, Page 24) (a) yes (b) no

6. The best way to lock a bicycle is to place the chain through: (Page 26)
(a) the front wheel and a stationary object
(b) the frame and a stationary object
(c) both wheels, the frame and a stationary object
(d) all are good procedures

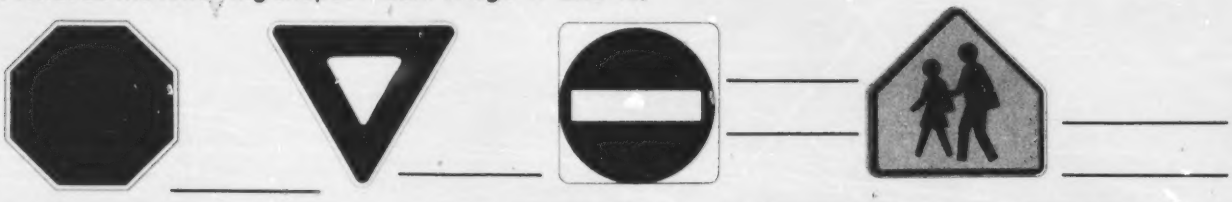
7. Two or more persons on a bicycle with one attached seat is dangerous and against the state law? (Page 24) (a) yes (b) no

8. If you must drive a bicycle in the city, try to select a route where car parking is allowed. (Page 25)
(a) yes (b) no

9. A bicycle is a vehicle and should be driven with the flow of traffic. (Page 25) (a) yes (b) no

10. When carrying a bicycle on a car, the front, tail, and signal lights must be seen? (Page 28)
(a) yes (b) no

11. What do the following shapes mean. (Page 17 and 18)

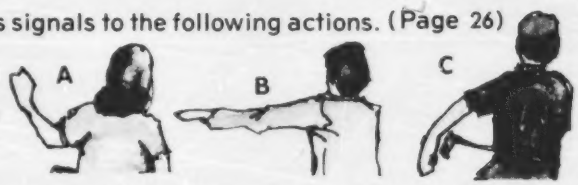


12. Identify the following signs. (Page 18)

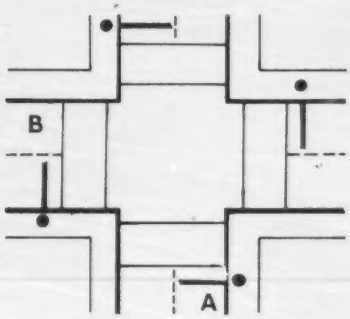
13. A child carrier seat that fastens to the handlebars can create a dangerous unbalanced bicycle. (Page 28) (a) yes (b) no

14. Match a driver's signals to the following actions. (Page 26)

____Left turn
____Right turn
____Slow or stop



15. Draw arrows to show how a bicycle driver would cross from point A to point B. Assume this is a busy intersection. (Page 26)



BIBLIOGRAPHY

All About Bikes and Bicycling. Max Alth, Hawthorn Books, Inc., 70 Fifth Avenue, New York, New York, 1011. 1972.

Bicycling is Great Fun. American Automobile Association.

Bike Fun. Bicycle Institute of America, 122 East 42nd Street, New York, New York. 10017

Illinois Bicycle Rules Of The Road. Office of the Secretary of State, Springfield, Illinois. 61701

Parents, Buying Your Child A Bicycle? American Automobile Association.

Safety Education Data Sheet No. 1 — Bicycling. National Safety Council, 425 N. Michigan Ave., Chicago, Illinois 60611

The Bike Book. Bibs McIntyre. Harper and Row Publishers, 10 East 53rd Street, New York, New York, 1972. 10022

The Complete Book of Bicycling. Eugene Sloane. Trident Press, 630 Fifth Avenue, New York, New York, 1970. 10020